

CLAIMS:

1. A method of manufacturing a component comprising liquid crystal, the method comprising:

placing a liquid crystal between a substrate and a mould, the mould having a shaped surface, at least a portion of the shaped surface having an alignment layer formed thereon, and the substrate having a first surface on which is formed a bonding layer;

5 bringing the mould and the substrate together so as to sandwich the liquid crystal between the first surface of the substrate and the shaped surface of the mould; polymerizing the liquid crystal;

adhering the liquid crystal to the bonding layer; and

10 removing the substrate with the adhered polymerized liquid crystal from the mould.

2. A method as claimed in claim 1, wherein the bonding layer comprises at least one chemical having a covalently bonded reactive group of the same family of groups to a reactive group of the liquid crystal, such that when the liquid crystal is polymerized, the liquid crystal is adhered to the bonding layer by chemical bonds being formed between the bonding layer and the liquid crystal.

3. A method as claimed in claim 3, wherein the bonding layer comprises a 20 chemical having a reactive group comprising at least one of acrylate, methacrylate, epoxide, oxetane, thiolene and vinyl ether.

4. A method as claimed in any one of the above claims, wherein an alignment layer is formed upon the first surface of the substrate.

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5. A method as claimed in claim 4, wherein a single layer is used to provide both the alignment layer on the substrate and the bonding layer.

6. A method as claimed in any one of the above claims, wherein at least one of the substrate and/the mould are provided with an adhesion layer.

7. A method as claimed in claim 6, wherein said adhesion layer comprises an organosilane compound.

8. A method as claimed in claim 7 wherein said organosilane compound comprises a methacrylic reactive group or an amino end group.

10 9. A method as claimed in any one of the above claims, wherein the substrate comprises an optically transparent material.

15 10. A method as claimed in any one of the above claims, wherein the shaped surface of the mould is a curved surface, such that the substrate and the adhered liquid crystal form a lens.

11. A method as claimed in any one of the above claims, further comprising the step of:

20 applying the alignment layer to the shaped surface of the mould, and inducing a specific orientation in the alignment layer.

12. An optical component comprising a liquid crystal, at least a portion of the optical component being formed according to the method as described in any one of claims 1 to 11.

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13. An optical component as claimed in claim 12, wherein said optical component comprises a lens.

30 14. An optical scanning device for scanning an information layer of an optical record carrier, the device comprising a radiation source for generating a radiation beam and an objective system for converging the radiation beam on the information layer, wherein the device comprises an optical component formed according to the method as claimed in any one of claims 1 to 11.

15. A device as claimed in claim 14, wherein the objective system comprises a lens formed according to the method as claimed in any one of claims 1 to 11.